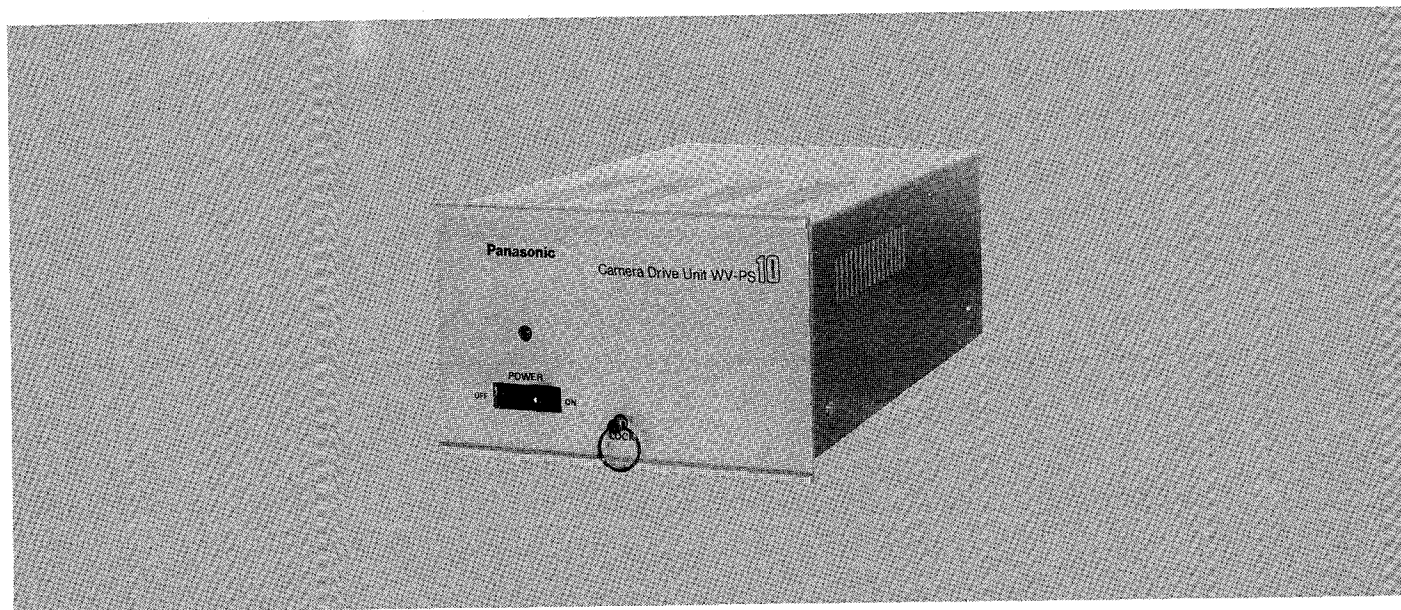


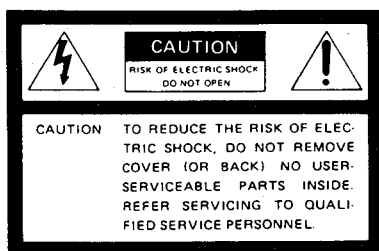
Service Manual

Camera Drive Unit WV-PS10 Series



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This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are shaded on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

SPECIFICATIONS

Power Source : 240V AC 50Hz for WV-PS10/B, WV-PS10N/A
 220V AC 50Hz for WV-PS10/C, G, WV-PS10N/C, WV-PS10F
 115V AC 50/60Hz for WV-PS10N

Power Consumption : Approx. 20W (with WV-CD110)

Camera Input : 1.0Vp-p/75 ohms, BNC connector

Video Output : 1.0Vp-p/75 ohms, BNC connector

Power Supply for Camera : Regulated current multiplex method (300mA)

Maximum Distance to the Camera :

Coaxial Cable Type	Maximum Cable Length	DC R/1000 ft. of Inner Conductor
RG-59/U	660 ft. (200 m)	Less than 30 ohms
RG-6/U	1650 ft. (500 m)	Less than 12 ohms

The maximum extensible resistance of the cable length is 20 ohms between the camera and camera drive unit.

Maximum Distance to the Monitor :

	Type of Coaxial Cable		
	RG-59/U (3C-2V)	RG-6/U (5C-2V)	RG-11/U (7C-2V)
Max. cable length without using cable loss compensator	825 ft (250 m)	1650 ft (500 m)	1980 ft (600 m)

VD Input : 4.0Vp-p/75 ohms, BNC connector

VD Output : 4.0Vp-p/75 ohms, BNC connector

Ambient Operating Temperature : 14°F - 122°F (-10°C - +50°C)

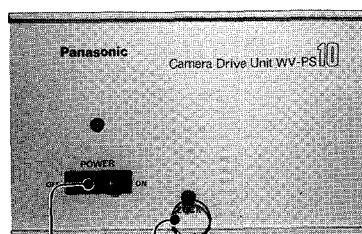
Ambient Operating Humidity : Less than 90%

Dimension : 5-1/2" (W) x 3-11/16" (H) x 9-5/16" (D)
 (140 (W) x 93 (H) x 237 (D)) mm

Weight : 5.5 lbs (2.5 kg)

Weights and dimensions shown are approximate. Specifications are subject to change without notice.

MAJOR OPERATING COMPONENTS AND THEIR FUNCTIONS



Handle/Lock Ring

This handle/Lock ring is used to lock the camera drive unit.

Power ON/OFF Switch

This turns the camera drive unit and camera ON and OFF.

Video Out Connector

The BNC connector is used to connect the coaxial cable to the monitor. Video output signal is fed to a video monitor or VTR.

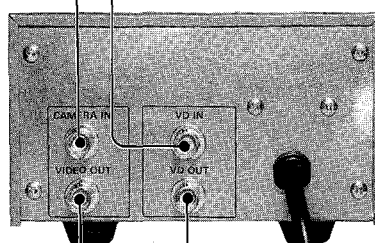
Camera In Connector

The BNC Connector is used to accept the coaxial cable from the specified camera. This connector supplies DC power and vertical drive pulse to the camera, and receive the video information from the camera.

VD In Connector

The BNC connector is used to accept the coaxial cable from the camera drive unit.

The video signal of the camera is synchronized to the VD signal which is provided at this connector from other camera drive unit.



VD Out Connector

The BNC connector is used to connect the coaxial cable to the camera drive unit. VD signal is fed to other camera drive unit.

CIRCUIT DESCRIPTION

The power board of WV-PS10 contains following circuits.

1. +30V Regulator Circuit
2. +9V Regulator Circuit
3. +5V Regulator Circuit
4. Constant Current Circuit
5. Misconnection Protection Circuit
6. Video Process Circuit
7. VD Generator Circuit

1 +30V Regulator Circuit

This circuit generates a regulated +30V DC power from the AC power source. Approx. 32V AC power obtained at the secondary winding of power transformer is rectified by D1 and generated approx. +40V DC is supplied to the collectors of Q1 and Q2.

When +30V DC voltage becomes lower, it is supplied to the base of Q3 through R6 and VR1 (+30V ADJ). On the other hand, the potential at the emitter of Q3 is kept +9V constant by a zener diode D5. As a result, the collector voltage of Q3 increases so that the base voltage of Q2 increases and finally, the emitter voltage of Q1 increases.

When +30V DC voltage becomes higher, the reverse operation takes place.

In this way, the +30V DC voltage is kept constant. When the abnormal big current flows the +30V DC output, R2 generate more than 0.7V so that Q4 turns ON and shut OFF the Q2 and Q1 to protect Q1 and Q2 from the overload.

2 +9V Regulator Circuit

This circuit generates a regulated +9V DC power from the regulated +30V DC.

The regulated +30V DC power is fed to the collector of Q12 and the base of Q12 is kept +9.6V constant. As a result, the emitter of Q12 is kept +9V constant.

3 +5V Regulator Circuit

This circuit generates +5V Regulated DC power from +30V regulated DC.

4 Constant Current Circuit

In order to compensate the difference of voltage drop due to the coaxial cable length between the power supply and camera, this circuit applies the constant current to the camera regardless of coaxial cable length. A switching regulator type constant current circuit is employed in this circuit.

A oscillator inside IC1 oscillates approx. 30KHz and this pulse is fed to a pulse width modulation (PWM) circuit inside IC1. The width of switching pulse is modulated corresponding to the voltage drop of the current detector R11 and the VR2 (CURRENT ADJ) setting, and then fed to the base of switching transistor Q5 through pin 4 of IC1 and the drive transistors Q7 and Q6.

The variation of load current due to coaxial cable length is detected by R11 as a voltage change. In case the load current decreases, the voltage between pin 5 and pin 8 of IC1 (i.e., input voltage of differential amplifier) decreases, and the output voltage of the differential amplifier decreases so that the modulated pulse duration becomes wider high (H) level and narrower low (L) level. This switching pulse is then fed to the switching transistor Q5 to increase the DC voltage at the cross point of L1, C5, R11 and R92 in order to increase the current flowing through R11. In case the load current increases, the reverse operation takes place.

In this way, the current flowing into the camera through R11 is kept constant regardless of coaxial cable length between the power supply and camera.

When a B/W mini CCTV camera (WV-80, WV-85 etc) is connected to WV-PS10 (PAL system only), pin 11 of IC3 sends H (high) level signal to transistor Q10 so that Q10 and Q9 are turned ON to reduce the output DC current approx. 40 mA in order to match the output power consumption for a B/W mini CCTV camera.

5 Misconnection Protection Circuit

Since the video signal from the camera is multiplexed on the power line and supplied to the monitor through video output connector, the misconnection protection circuit protects the power circuits from a short circuit or a open circuit.

The impedance converter Q11 converts the impedance of power line from low to high so that the misconnection protection circuit is performed precisely.

When the power switch on the power supply is turned ON, approx. +6V DC is supplied to the camera through Q11 momentarily after turning ON the power switch by the starter circuit inside IC1.

In the camera, approx. 40KHz pulse is generated by the +6V DC and multiplexed on the power line. This pulse is supplied to the misconnection protection circuit inside IC1 through pin 10 of IC1 to turn ON Q206.

As a result, the DC power corresponding to the coaxial cable length is supplied from the constant current circuit continuously through Q11. If this power supply is connected to other CCTV cameras or products by mistake, no pulse is fed back to the starter circuit and Q11 becomes OFF.

Therefore no DC power is supplied through Q11 to the connected products in order to protect them.

When the coaxial cable length between the power supply and camera is extended more than its specification or the coaxial cable is disconnected in the operating condition, the DC voltage at pin 8 of IC1 increases and the output of differential amplifier inside IC1 is fed to the open protection circuit inside IC1 in order to cut off the DC power. As a result, no DC power is supplied to the camera.

6 Video Process Circuit

This circuit consisting of IC3, Q13 to Q22 sends the VD signal to the camera through the power line and separates the video signal from the camera through power line and feed it to the monitor through the video out connector.

The VD2 pulse generated in the VD generator circuit is supplied to pin 4 of IC3 through inverter Q13 and multiplexed to the power line through pin 3 of IC3. This VD2 pulse is used as a Vertical Drive and Vertical Sync signal in the camera.

On the other hand, the video signal from the camera is clamped by the clamp pulse generated in the clamp pulse generator circuit in IC3 using the separated horizontal sync signal from the video signal in the IC3.

The clamped video signal is then sent to the VD2 erase circuit in the IC3 where the VD2 pulse multiplexed to the video signal is deleted using VD2 erase pulse generated from VDE1 and VDE2 pulse supplied to pin 9 and 10 of IC3.

The video signal obtained at pin 7 of IC3 is forwarded to a sync slice circuit consisting of Q14 and Q15.

The sync signal level of the video signal from the camera is approx. 0.4Vp-p and sliced/suppressed to 0.3Vp-p measured at the video output connector by Q14 and Q15.

The video signal is then amplified +6dB by Q16 and Q17. Q18 is turned ON by the cable loss compensation signal fed from pin 20 of IC1 when the cable length is longer than approx. 50m and C32 is connected across R38 so that the high frequency component is amplified more.

The amplified video signal obtained at the collector of Q17 is applied to the output amplifier consisting Q19 - Q22 and then fed to the VIDEO OUTPUT connector through pin 1 of CN3.

7 VD Generator Circuit

This circuit generates a vertical drive (VD) pulse for the camera by the internal crystal oscillator or receiving VD pulse supplied to the VD IN connector and sends out the VD signal to other system from the VD OUT connector.

o Internal VD mode

A 60Hz (50Hz for PAL system) pulse generated by IC4 is fed to pin 12 of IC7 through pin 6 of IC4.

In the internal VD mode, the high (H) level from pin 12 of IC5 is fed to pin 13 of IC7 so that the internal VD pulse fed to pin 12 of IC7 is fed to pin 1 of IC5 and pins 5 and 11 of IC6 through pins 11, 10 and 8 of IC7. The camera vertical drive pulse (VD2) is obtained at pin 4 of IC5 and fed to the base of Q13.

Two kinds of vertical drive erase pulses (VDE1 and VDE2) are obtained at pins 6 and 10 of IC6 and fed to pins 9 and 10 of IC3 respectively.

The VDE2 pulse is also supplied to the VD OUT connector through the VD output amplifier consisting of Q24, Q25 and Q26.

o External VD mode

The VD pulse supplied to the VD IN connector is fed to pin 4 of IC7 and pin 10 of IC5 through inverter Q23 and IC7(a). When the external VD pulse is fed to pin 10 of IC5, pin 5 of IC5 becomes H level and pin 12 of IC5 becomes L level so that the external VD pulse can be fed to pin 1 of IC5 and pins 5 and 11 of IC6.

ADJUSTMENT PROCEDURE

1. Test Equipment Required

The following test equipment is required for adjustment of power supply WV-PS10.

- o Digital volt/current meter
- o WV-CD110 or WV-80 camera

2. Disassembling Procedure

- o Remove four screws fixing the top cover and remove the top cover.

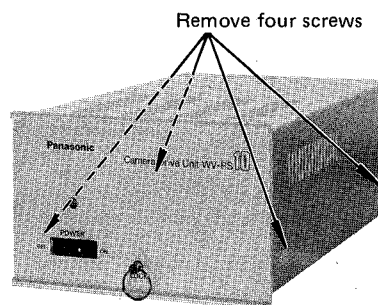


Fig. 1

3. LOCATION OF TEST POINT AND ADJUSTING CONTROLS

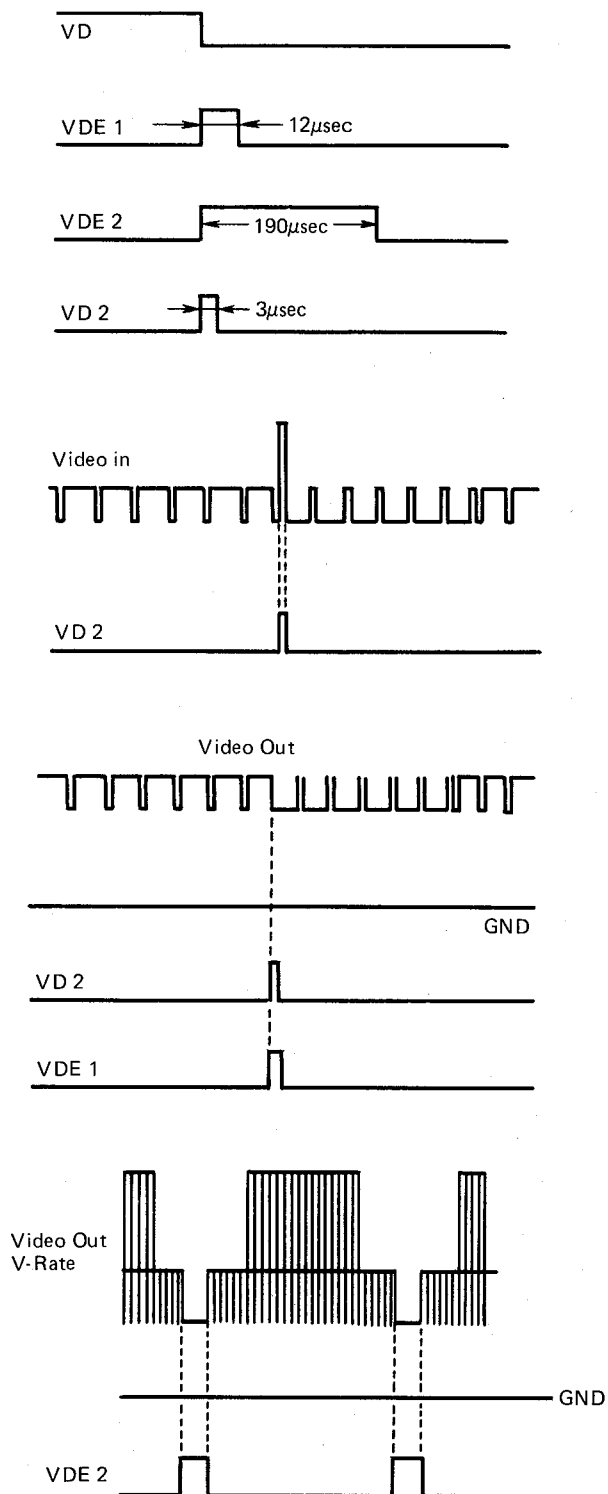
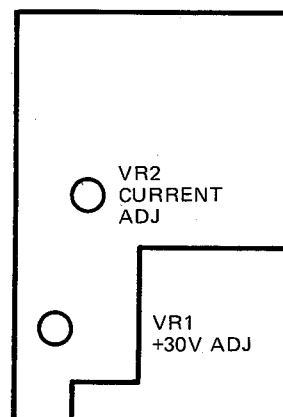


Fig. 1

4. Adjustment Procedure

a) +30V adjustment

Test point :	Collector of Q5
Adjust :	VR1 (+30V ADJ)

- o Do not connect the camera to the CAMERA IN connector.
- o Turn ON the power switch.
- o Connect the digital voltmeter between the collector of Q5 (+lead) and chassis (-lead).
- o Adjust +30V ADJ VR1 for $30V \pm 0.5V$.

b) DC current adjustment

Test point :	CAMERA IN Connector
Adjust :	VR2 (CURRENT ADJ)

- o Turn OFF the power switch.
- o Connect the DC current meter between the camera and the power supply as shown Fig. 2 and turn ON the power switch.

Note : Keep the power switch in the OFF position during the connection.

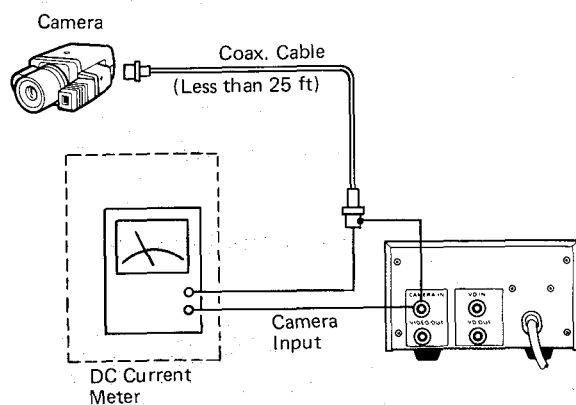
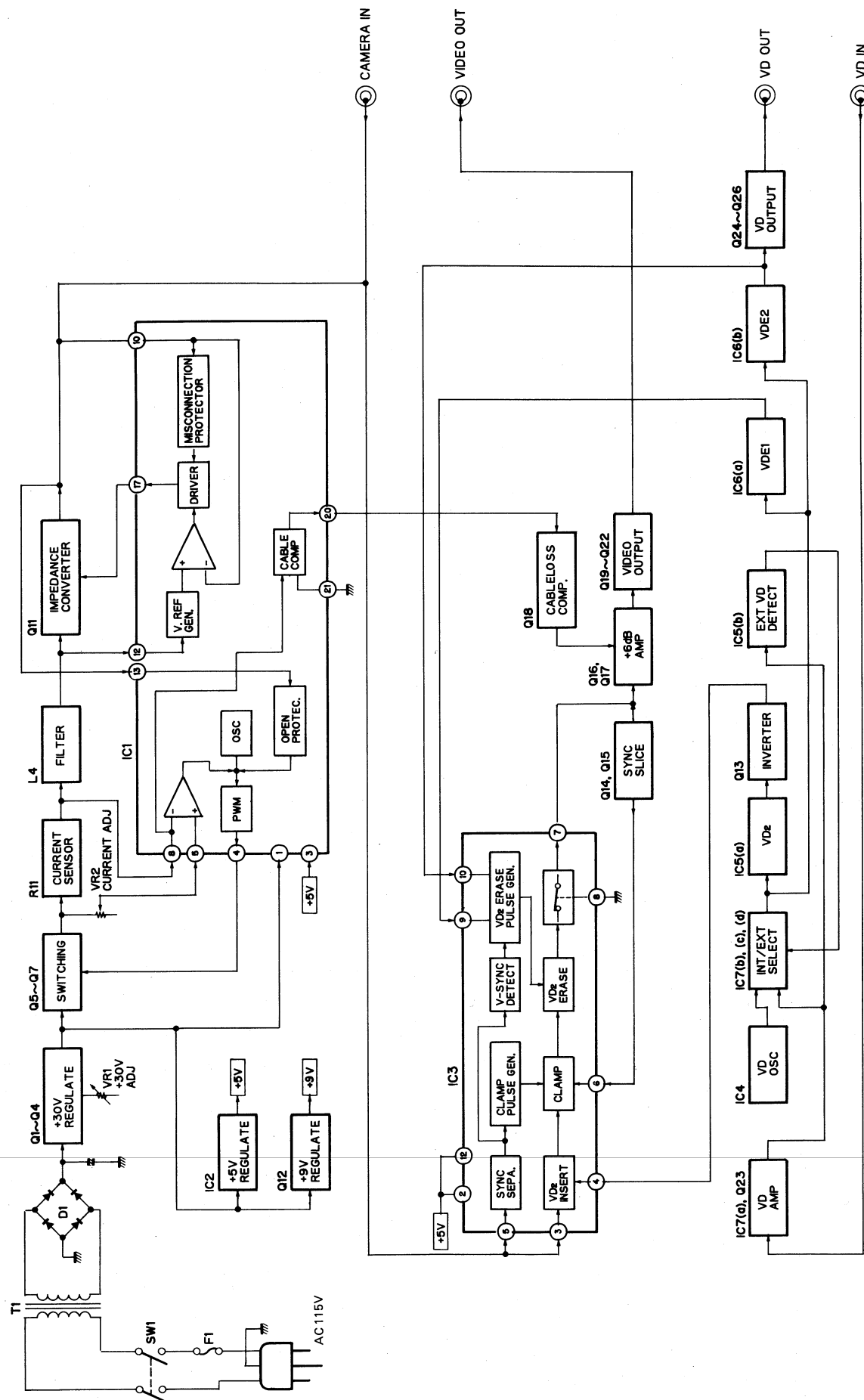


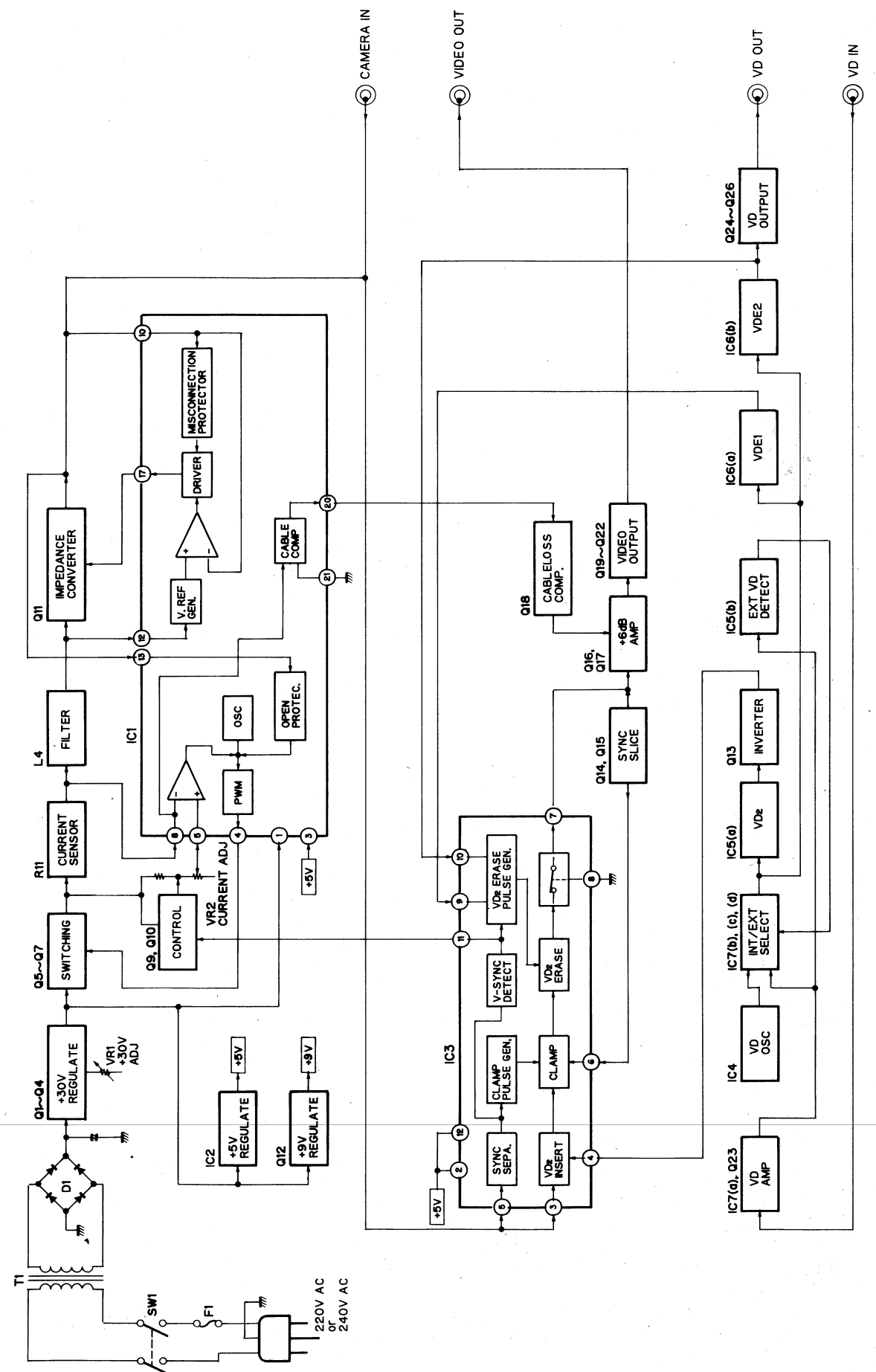
Fig. 2

- o Adjust CURRENT ADJ VR2 for $310\text{ mA} \pm 2\text{ mA}$ for NTSC system ($350\text{ mA} \pm 2\text{ mA}$ for PAL system).
- o After the above adjustment, disconnect the DC current meter.

BLOCK DIAGRAM OF WV-PS10N

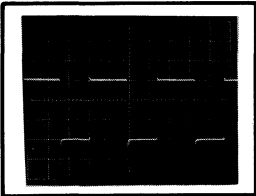


BLOCK DIAGRAM OF WV-PS10F, WV-PS10/B, C, G WV-PS10N/A, C

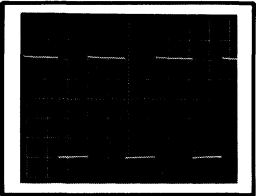


SCHEMATIC DIAGRAM OF WV-PS10N

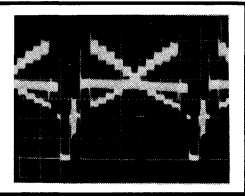
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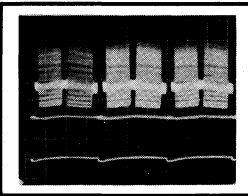
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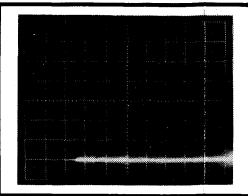
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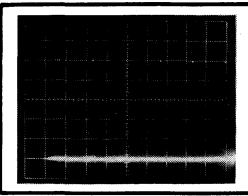
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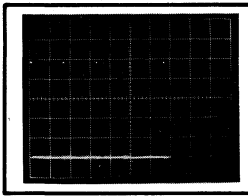
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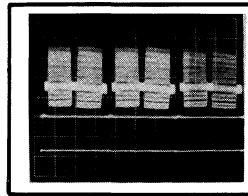
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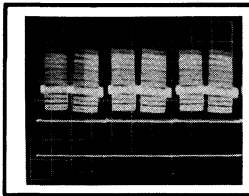
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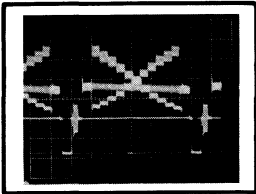
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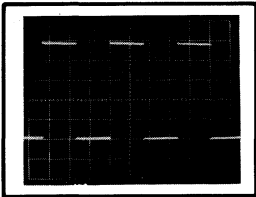
9 0.2V/DIV, 5ms/DIV



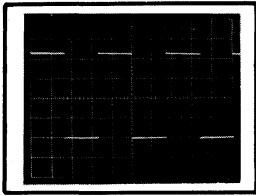
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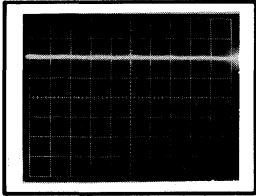
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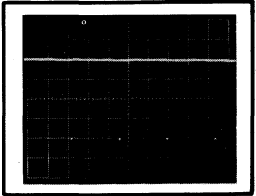
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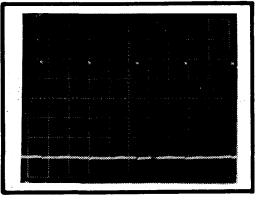
13 1V/DIV, 10ms/DIV



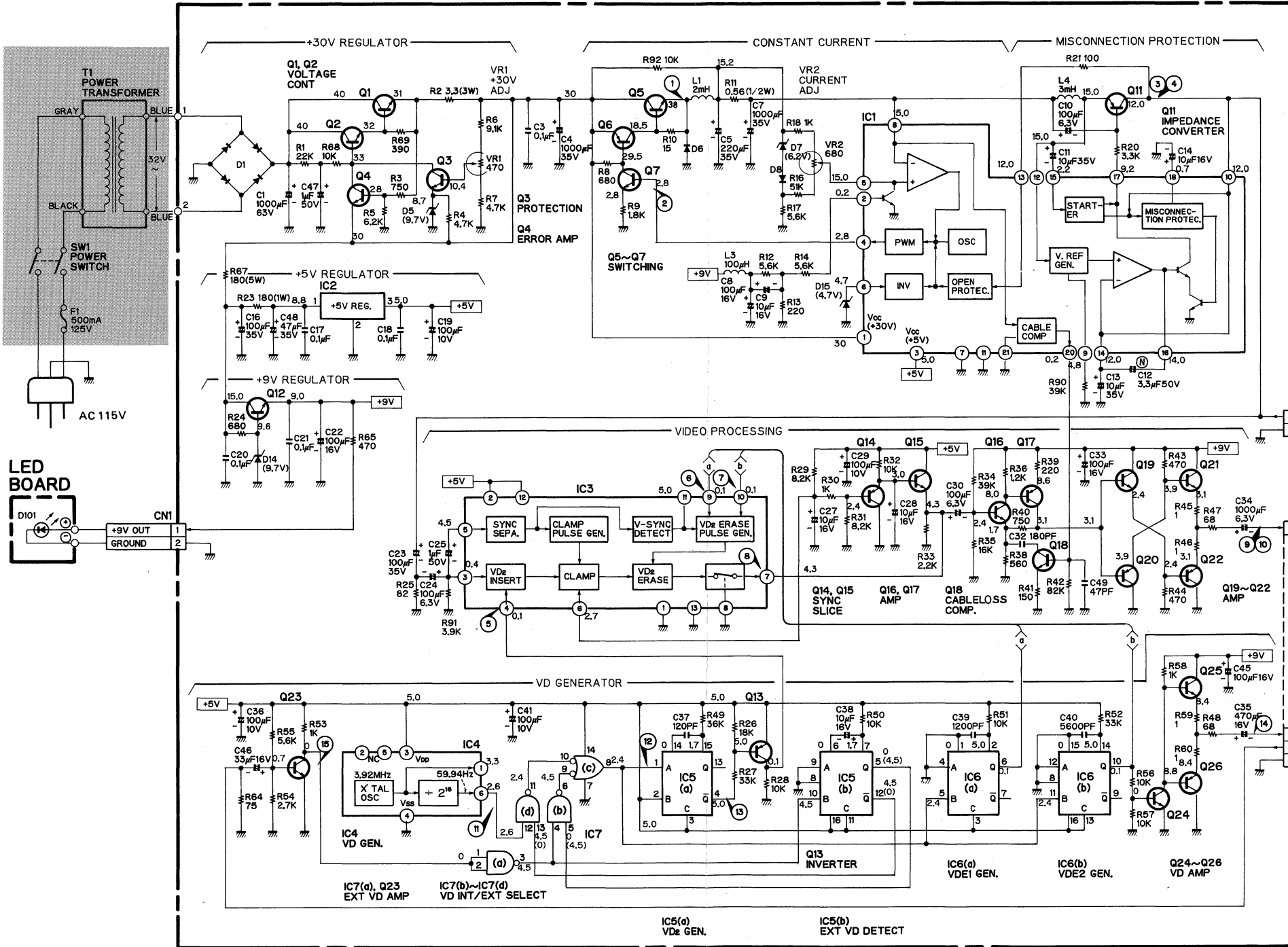
14 2V/DIV, 10ms/DIV



15 1V/DIV, 10ms/DIV



POWER BOARD



PRODUCT SAFETY NOTE

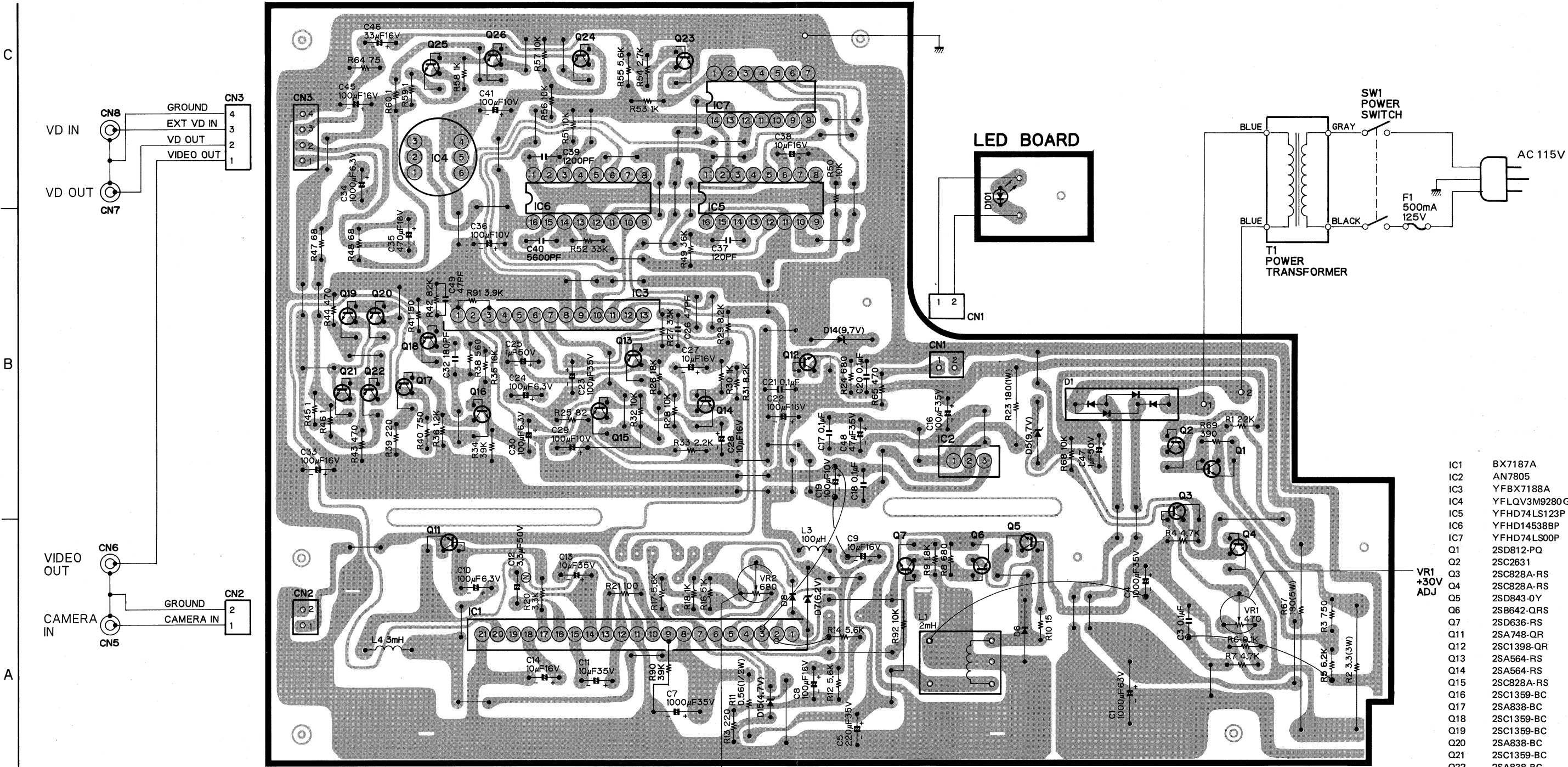
The shaded area on this schematic diagram incorporates special features important for protection from X-Radiation, fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

POWER BOARD

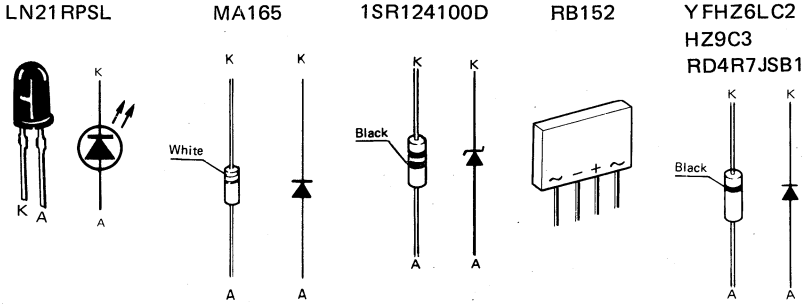
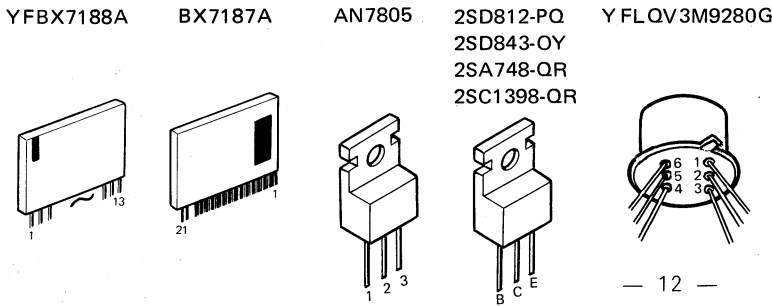
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IC2	AN7805	C2
IC3	YFBX7188A	B2, B:
IC4	YFLQV3M9280G	A2
IC5	YFHD74LS123P	A3
IC6	YFHD14538BP	A4
IC7	YFHD74LS00P	A2, A
Q1	2SD812-PQ	C2
Q2	2SC2631	C2
Q3	2SC828A-RS	C2
Q4	2SC828A-RS	C2
Q5	2SD843-0Y	C3
Q6	2SB642-QRS	C3
Q7	2SD636-RS	C3
Q11	2SA748-QR	C4
Q12	2SC1398-QR	B1
Q13	2SA564-RS	A3
Q14	2SA564-RS	B3
Q15	2SC828A-RS	B4
Q16	2SC1359-BC	B4
Q17	2SA838-BC	B4
Q18	2SC1359-BC	B4
Q19	2SC1359-BC	B4
Q20	2SA838-BC	B4
Q21	2SC1359-BC	B4
Q22	2SA838-BC	B4
Q23	2SC828A-RS	A2
Q24	2SC828A-RS	A4
Q25	2SC1318-RS	A4
Q26	2SA720-RS	A4
D1	RB152	C1
D5	HZ9C3	C2
D6	1SR124100A	C3
D7	YFHZ6LC2	C3
D8	MA165	C3
D14	HZ9C3	B1
D15	RD4R7JSB1	C3
D101	LN21RP5L	B1

CONDUCTOR VIEW OF PS10N

POWER BOARD

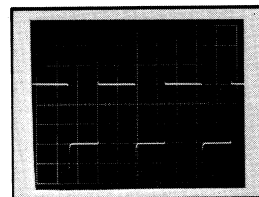


IC1	BX7187A	A2, A3
IC2	AN7805	B4
IC3	YFBX7188A	B2
IC4	YFLQV3M9280G	C2
IC5	YFHD74LS123P	B3
IC6	YFHD14538BP	B2
IC7	YFHD74LS00P	C3
Q1	2SD812-PQ	B4
Q2	2SC2631	B4
Q3	2SC828A-RS	A4
Q4	2SC828A-RS	A4
Q5	2SD843-0Y	A4
Q6	2SB642-QRS	A4
Q7	2SD636-RS	A3
Q11	2SA748-QR	A2
Q12	2SC1398-QR	B3
Q13	2SA564-RS	B2
Q14	2SA564-RS	B3
Q15	2SC828A-RS	B2
Q16	2SC1359-BC	B2
Q17	2SA838-BC	B2
Q18	2SC1359-BC	B2
Q19	2SC1359-BC	B2
Q20	2SA838-BC	B2
Q21	2SC1359-BC	B2
Q22	2SA838-BC	B2
Q23	2SC828A-RS	C3
Q24	2SC828A-RS	C2
Q25	2SC1318-RS	C2
Q26	2SA720-RS	C2
D1	RB152	B4
D5	HZ9C3	B4
D6	1SR124100A	A4
D7	YFHZ6LC2	A3
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D15	RD4R7JSB1	A3
D101	LN21RP5L	B4

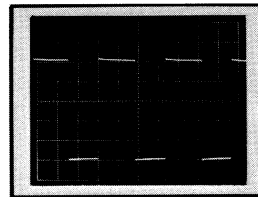


SCHEMATIC DIAGRAM OF WV-PS10F, WV-PS10/B, C, G, WV-PS10N/A, C

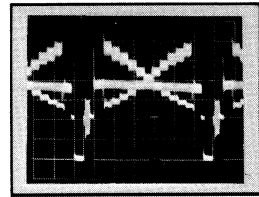
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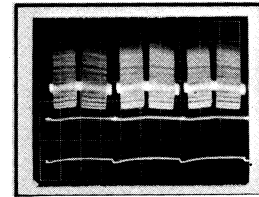
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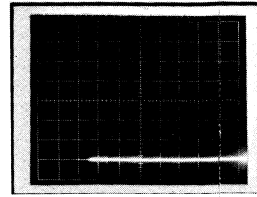
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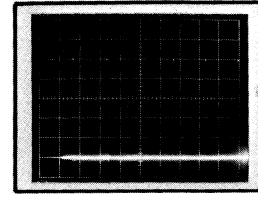
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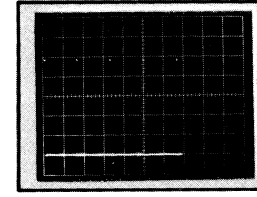
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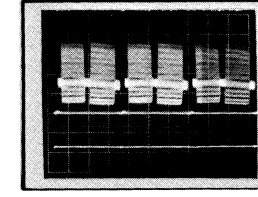
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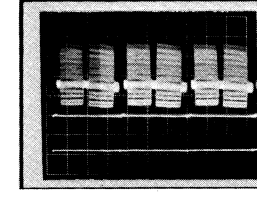
7 1V/DIV, 10ms/DIV



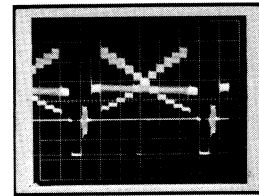
8 0.2V/DIV, 5ms/DIV



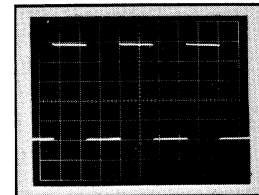
9 0.2V/DIV, 5ms/DIV



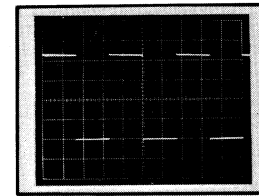
10 0.2V/DIV, 10μs/DIV



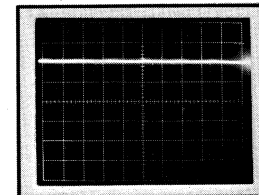
11 1V/DIV, 5ms/DIV



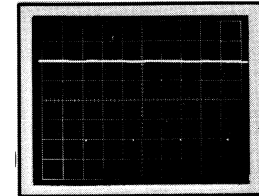
12 1V/DIV, 5ms/DIV



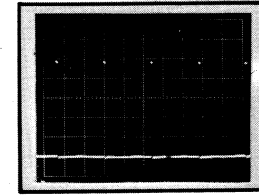
13 1V/DIV, 10ms/DIV



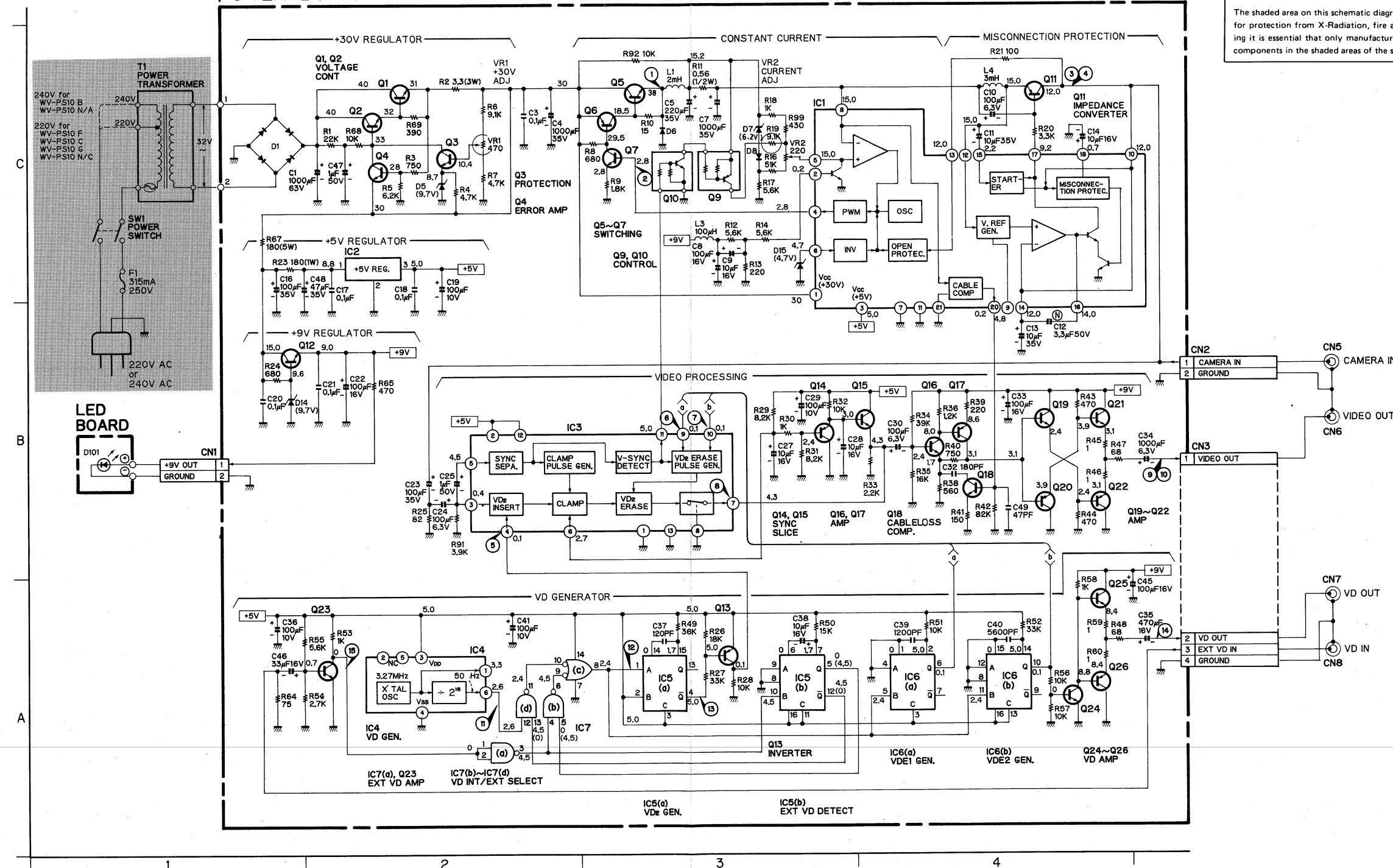
14 2V/DIV, 10ms/DIV



15 1V/DIV, 10ms/DIV



POWER BOARD



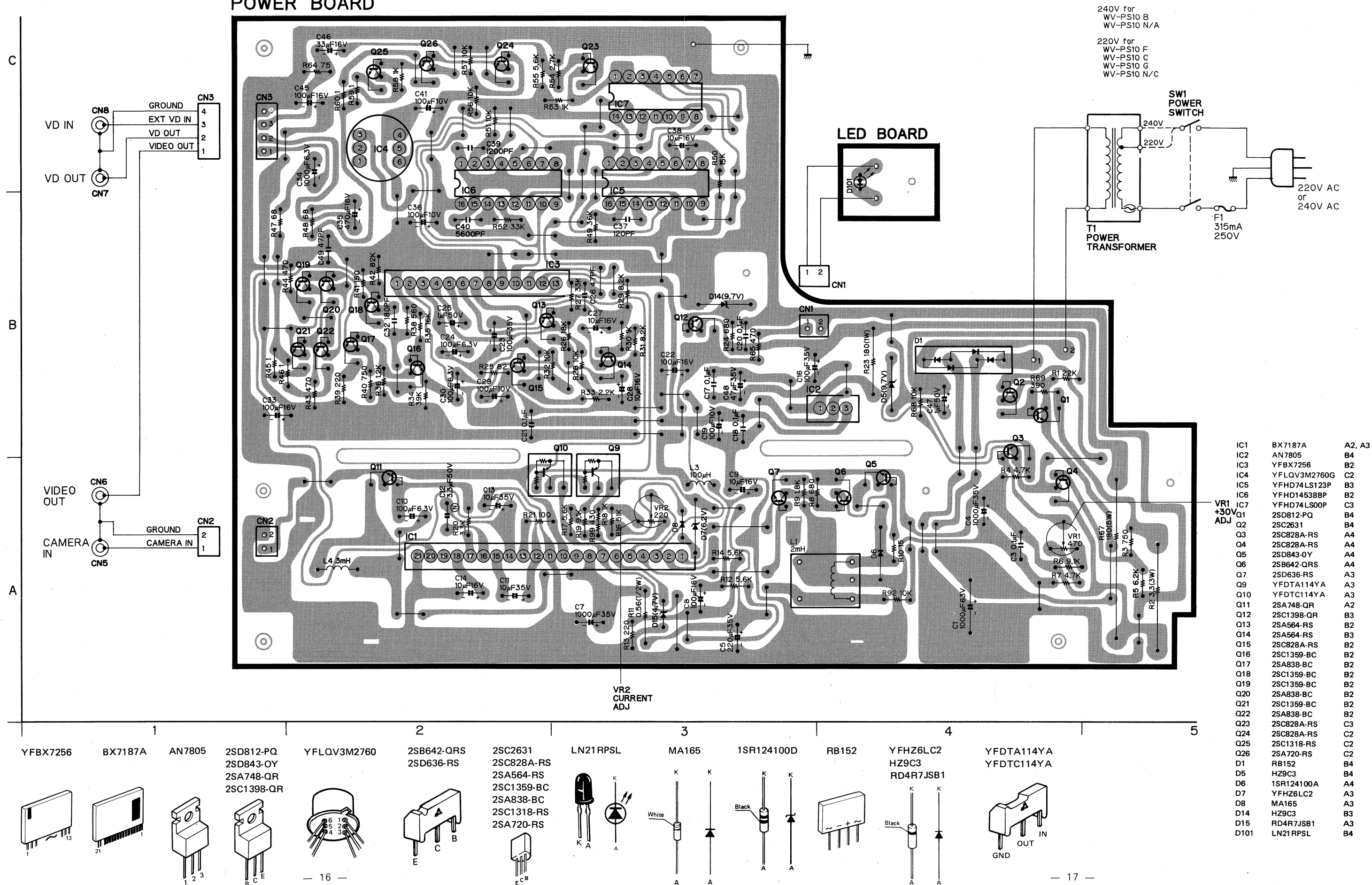
PRODUCT SAFETY NOTE

The shaded area on this schematic diagram incorporates special features important for protection from X-Radiation, fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

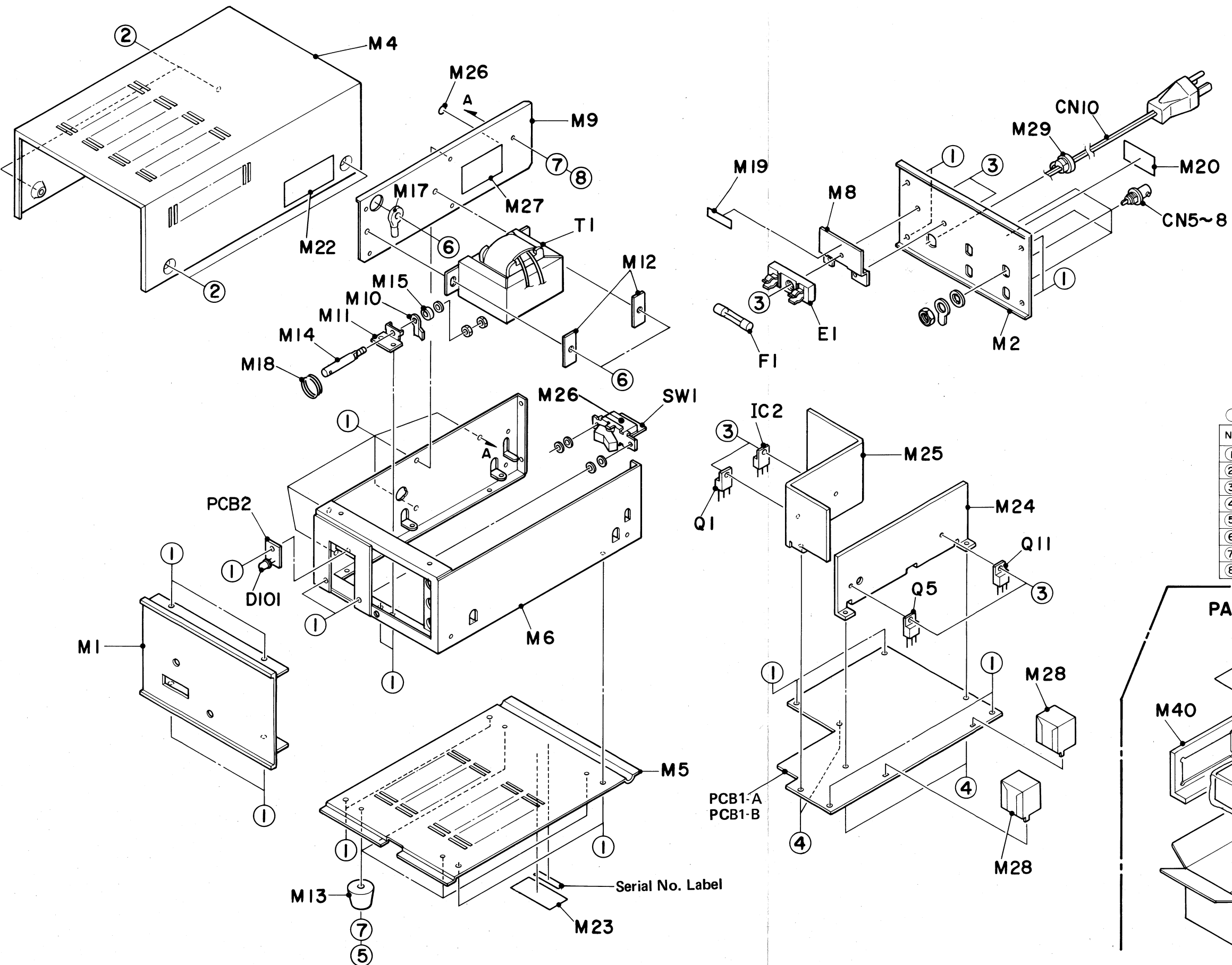
POWER BOARD

IC1	BX7187A	C4
IC2	AN7805	C2
IC3	YFBX7256	B2, B3
IC4	YFLQV3M2760G	A2
IC5	YFHD74LS123P	A3
IC6	YFHD14538BP	A4
IC7	YFHD74LS00P	A2, A3
Q1	2SD812-PQ	C2
Q2	2SC2631	C2
Q3	2SC828A-RS	C2
Q4	2SC828A-RS	C2
Q5	2SD843-0Y	C3
Q6	2SB642-QRS	C3
Q7	2SD636-RS	C3
Q9	YFDTA114YA	C3
Q10	YFDTA114YA	C3
Q11	2SA748-QR	C4
Q12	2SC1398-QR	B1
Q13	2SA564-RS	A3
Q14	2SA564-RS	B3
Q15	2SC828A-RS	B4
Q16	2SC1359-BC	B4
Q17	2SA838-BC	B4
Q18	2SC1359-BC	B4
Q19	2SC1359-BC	B4
Q20	2SA838-BC	B4
Q21	2SC1359-BC	B4
Q22	2SA838-BC	B4
Q23	2SC828A-RS	A2
Q24	2SC828A-RS	A4
Q25	2SC1318-RS	A4
Q26	2SA720-RS	A4
D1	RB152	C1
D5	HZ9C3	C2
D6	1SR124100A	C3
D7	YFHZ6LC2	C3
D8	MA165	C3
D14	HZ9C3	B1
D15	RD4R7JSB1	C3
D101	LN21RPSL	B1

POWER BOARD



EXPLODED VIEW AND PACKAGING

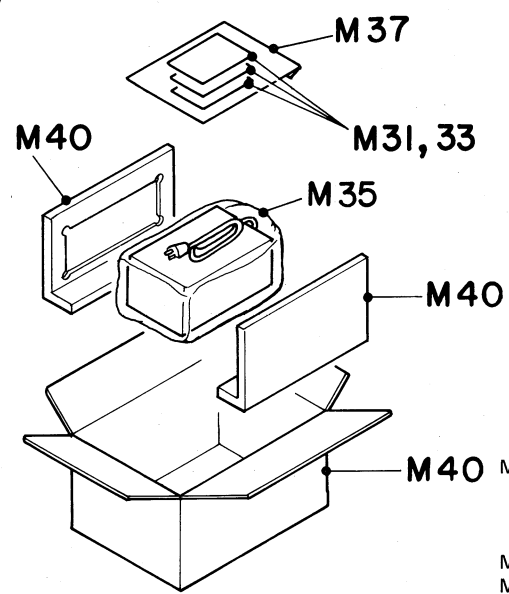


PCB1-A	YFVKBRPS10J1A	M6	YFV2KA0116B2
PCB1-B	YFVKBPS10E1A	M8	YFV2SA0183A4
PCB2-A	YFVKCPS10J1A	M9	YFV3BA0006B3
PCB2-B	YFVKCPS10E1A	M10	YWJ500PAM01
IC2	AN7805	M11	YWJ500PAM02B
Q1	2SD812-PQ	M12	YVW5250LM04
Q5	2SD843-OY	M13	YWL5R-10
Q11	2SA748-QR	M14	YWJ500PBM01
D101	LN21RPSL	M15	YWJ500PWB01A
T1	YFPHB57V036	M17	YW-BCG-EM01
	PHB57V035	M18	YWJ500PSM01
SW1	EST1542R	M19	YFV7MA0160A4
	EST1554	M20	YFV7MA0203A4
F1	XBA1E05NS5	M21	YFV7MA0182A4
	XBA2C03ET0A	M22	YFV7MB0106A4
CN5~8	YWBNC-R	M23	YFV7QA0894A4
CN10	YWV1000NXXK01		YFV7QA0895A4
	YFCE009908FA		YFV7QA0896A4
	HBS308A		YFV7QA0897A4
	YFKPGTSA25		YFV7QA0909A4
	YFVM009908A		YFV7QA0910A4
E1	YWX-N1157-01		YFV7QA0910A4
	YWX-N1153-07		YFV7QA0911A4
M1	YFV5WB0219A3	M24	YFV7DA0029A4
	YFV5WC0219A3	M25	YFV7DA0030A4
	YFV5WD0219A3	M26	YW-BCG-UR01B
M2	YFV5WB0200A4	M27	YWS-CULRB03
	YFV5WD0220A4		YWS-CCSRB01
M4	YFV5EA0300A3	M28	YVW52-LM05
M5	YWJ140PLM01B	M29	YWSR5N4
			YWSR6W-1

Numbers Show Screws

No.	Screws	Description
①	XSB3+6FX	Binding Head Screws
②	XSB3+6FN	Binding Head Screws
③	XSB3+8FX	Binding Head Screws
④	XSB3+10FX	Binding Head Screws
⑤	XSB3+12FX	Binding Head Screws
⑥	XSB4+6FX	Binding Head Screws
⑦	XWE3FX	Small Round Plain Washer
⑧	XNG3AFX	Hexagon Heads Nut

PACKAGING



M31	YFV8QA0884AN
	YFV8QA0885AN
	YFV8QA0886AN
	YFV8QA0887AN
M33	19998700331
M35	XZB26X40C05
M36	YWT10X35C03
M37	YWT20X35C03
M40	YFV9CA0706AN

REPLACEMENT PARTS LIST

Important Notice

- Components identified by $\triangle$ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- Components identified by $\circ$ mark are new parts used from this model.
- Complete printed circuit board assembly is not available as replacement part.

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
MISCELLANEOUS					
T1	$\triangle$ $\circ$ PHB57V035	Power Transformer for WV-PS10F, WV-PS10/ BCG, WV-PS10N/A, WV-PS10N/C		$\circ$ YFV7QA0896A4	Main Label for WV-PS10N
SW1	$\triangle$ $\circ$ YFPHB57V036	Power Transformer for WV-PS10N	M26	$\circ$ YFV7QA0897A4 $\circ$ YFV7QA0909A4 $\circ$ YFV7QA0910A4 $\circ$ YFV7QA0911A4	Main Label for WV-PS10N/C Main Label for WV-PS10N/A Main Label for WV-PS10/C Main Label for WV-PS10/G
	$\triangle$ EST1542R	Seesaw Switch for WV-PS10N		YW-BCG-UR01B	Earth Label
	$\triangle$ EST1554	Seesaw Switch for WV-PS10F, WV-PS10/BCG, WV-PS10N/A, WV-PS10N/C	M27	YWS-CCSRB01 YWS-CULRB03	Fuse Exchange Label for WV-PS10F Fuse Exchange Label for WV-PS10/BCG, WV-PS10N/A, WV-PS10N/C
F1	$\triangle$ XBA1E05NS5 $\triangle$ XBA2C03ET0A	Current Fuse 0.5A for WV-PS10N Current Fuse 310mA for WV-PS10F, WV-PS10/BCG, WV-PS10N/A, WV-PS10N/C	M29	YWSR5N4 YWSR6W-1	Cord Clamp for WV-PS10N Cord Clamp for WV-PS10/BCG, WV-PS10F, WV-PS10N/A, WV-PS10N/C
CN5-8	YWBNC-R	Connector			
CN10	$\triangle$ YWV1000NXK01 $\triangle$ YFCE009908FA	AC Power Cord for WV-PS10N AC Power Cord for WV-PS10F, WV-PS10/C, WV-PS10N/C	POWER BOARD		
	$\triangle$ HBS308A $\triangle$ YFKPGTSA25	AC Power Cord for WV-P10/B AC Power Cord for WV-PS1-N/A	PCB1-A	$\circ$ YFVKBPS10J1A	Printed Circuit Board Assy for WV-PS10N
E1	$\triangle$ YFVM009908A YWX-N1153-07	AC Power Cord for WV-PS10/G Fuse Holder for WV-PS10F, WV-PS10/BCG, WV-PS10N/A	PCB1-B	$\circ$ YFVKBPS10E1A	Printed Circuit Board Assy for WV-PS10/BCG, WV-PS10F, WV-PS10N/A, WV-PS10N/C
M1	YWX-N1157-01	Fuse Holder for WV-PS10N	IC1	BX7187A	IC
	$\circ$ YFV5WB0219A3 $\circ$ YFV5WC0219A3	Front Panel for WV-PS10/BCG Front Panel for WV-PS10F	IC2	$\circ$ AN7805	IC
M2	$\circ$ YFV5WD0219A3	Front Panel for WV-PS10N, WV-PS10N/A, WV-PS10N/C	IC3	YFBX7188A	IC for PCB1-A
	$\circ$ YFV5WB0220A4	Rear Panel for WV-PS10/BCG, WV-PS10N/A, WV-PS10N/C	IC4	YFBX7256 YFLQV3M9280G YFLQV3M2760G	IC for PCB1-B IC for PCB1-A IC for PCB1-B
	$\circ$ YFV5WD0220A4	Rear Panel for WV-PS10F	IC5	HD74LS123P	IC
M4	YFV5EA0300A3	Cover	IC6	YFHD14538BP	IC
M5	YWJ140PLM01B	Case	IC7	HD74LS00P	IC
M6	YFV2KA0116B2	Main Chassis	Q1	$\circ$ 2SD812-PQ	Transistor
M8	$\circ$ YFV2SA0183A4	Mounting Angle for Fuse Holder	Q2	2SC2631	Transistor
M9	$\circ$ YFV3BA0006B3	Supporting Angle for Main Chassis	Q3,4	2SC828A-RS	Transistor
M10	YWJ500PAM01	Mounting Angle A	Q5	YW2SD843-0Y	Transistor
M11	YWJ500PAM02B	Mounting Angle B	Q6	2SB642-QRS	Transistor
M12	YWV5350LM04	Hold Plate for Transformer	Q7	2SD636-RS	Transistor
M13	YWLSR-10	Rubber Foot	Q9	YFDTA114YA	Transistor for PCB1-B
M14	YWJ500PBM01	Shaft	Q10	YFDTC114YA	Transistor for PCB1-B
M15	YWJ500PWB01A	Cushion	Q11	2SA748-QR	Transistor
M17	YW-BCG-EM01	Earth Lug	Q12	2SC1398-QR	Transistor
M18	YWJ500PSM01	Ring	Q13,14	2SA564-RS	Transistor
M19	YFV7MA0160A4 YFV7MA0203A4	Fuse Safety Label for WV-PS10N Fuse Safety Label for WV-PS10/BCG, WV-PS10F, WV-PS10N/A, WV-PS10N/C	Q15	2SC828A-RS	Transistor
M20	YFV7MA0182A4	Safety Label	Q16	$\circ$ 2SC1359-C	Transistor
M22	YFV7MB0106A4	Safety Label	Q17	2SA838-BC	Transistor
M23	$\circ$ YFV7QA0894A4	Main Label for WV-PS10F	Q18,19	$\circ$ 2SC1359-C	Transistor
	$\circ$ YFV7QA0895A4	Main Label for WV-PS10/B	Q20	2SA838-BC	Transistor
			Q21	$\circ$ 2SC1359-C	Transistor
			Q22	2SA838-BC	Transistor
			Q23,24	2SC828A-RS	Transistor
			Q25	2SC1318-RS	Transistor

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
Q26	2SA720-RS	Transistor	R43,44	ERD10TJ471	Carbon 470 ohms 1/8W
D1	RB152	Rectifier	R45,46	ERD10TJ1R0	Carbon 1 ohms 1/8W
D5	HZ9C3	Diode	R47,48	ERD10TJ680	Carbon 68 ohms 1/8W
D6	1SR124100A	Diode	R49	ERD10TJ363	Carbon 36K ohms 1/8W
D7	YFHZ6LC2	Diode	R50	ERD10TJ103	Carbon 10K ohms 1/8W for PCB1-A
D8	MA165	Diode		ERD10TJ153	Carbon 15K ohms 1/8W for PCB1-B
D14	HZ9C3	Diode	R51	ERD10TJ103	Carbon 10K ohms 1/8W
D15	o RD4R7JSB1	Diode	R52	ERD10TJ333	Carbon 33K ohms 1/8W
R1	ERD10TJ223	Carbon 22K ohms 1/8W	R53	ERD10TJ102	Carbon 1K ohms 1/8W
R2	ERX3SJ3R3	Metal 3.3 ohms 3W	R54	ERD10TJ272	Carbon 2.7K ohms 1/8W
R3	ERD10TJ751	Carbon 750 ohms 1/8W	R55	ERD10TJ562	Carbon 5.6K ohms 1/8W
R4	ERD10TJ472	Carbon 4.7K ohms 1/8W	R56,57	ERD10TJ103	Carbon 10K ohms 1/8W
R5	ERD10TJ622	Carbon 6.2K ohms 1/8W	R58	ERD10TJ102	Carbon 1K ohms 1/8W
R6	ERD10TJ912	Carbon 9.1K ohms 1/8W	R59,60	ERD10TJ1R0	Carbon 1 ohms 1/8W
R7	ERD10TJ472	Carbon 4.7K ohms 1/8W	R64	ERD10TJ750	Carbon 75 ohms 1/8W
R8	ERD10TJ681	Carbon 680 ohms 1/8W	R65	ERD10TJ471	Carbon 470 ohms 1/8W
R9	ERD10TJ182	Carbon 1.8K ohms 1/8W	R67	o ERF5AJ181	Metal 180 ohms 5W
R10	ERD10TJ150	Carbon 15 ohms 1/8W	R68	ERD10TJ103	Carbon 10K ohms 1/8W
R11	o ERX12SJR56	Metal 0.56 ohms 1/2W	R69	ERD10TJ391	Carbon 390 ohms 1/8W
R12	ERD10TJ562	Carbon 5.6K ohms 1/8W	R92	ERD10TJ103	Carbon 10K ohms 1/8W
R13	ERD10TJ221	Carbon 220 ohms 1/8W	R99	o ERDS2CKF4300	Metal 430 ohms 1/8W for PCB1-B
R14	ERD10TJ562	Carbon 5.6K ohms 1/8W	VR1	YWSR19R470B	Variable Resistor 470 ohms
R16	ER0S2TKF5102	Metal 51K ohms 1/8W	VR2	YFH1021A680	Variable Resistor 680 ohms for PCB-1
R17	ERD10TJ562	Carbon 5.6K ohms 1/8W		YFH1021A220	Variable Resistor 220 ohms for PCB1-B
R18	ER0S2CKF1001	Metal 1K ohms 1/8W for PCB1-A	C1	o ECET63V102SW	Electrolytic 1000 µF 63V for PCB1-A
	ER0S2CKF1001	Metal 1K ohms 1/8W for PCB1-B		o ECET63R102SW	Electrolytic 1000 µF 63V for PCB1-B
R19	ER0S2CKF9101	Metal 9.1K ohms 1/8W for PXB1-B	C3	ECQM1H104JZ	Plastic 0.1 µF 50V
R20	ERD10TJ332	Carbon 3.3K ohms 1/8W	C4	o ECEA1VU102E	Electrolytic 1000 µF 35V
R21	ERD10TJ101	Carbon 100 ohms 1/8W	C5	ECEA1VF221	Electrolytic 220 µF 35V
R23	o ERG1SJ181P	Metal 180 ohms 1W	C7	o ECEA1VU102E	Electrolytic 1000 µF 35V
R24	ERD10TJ681	Carbon 680 ohms 1/8W	C8	ECEA1CU101	Electrolytic 100 µF 16V
R25	ERD10TJ820	Carbon 82 ohms 1/8W	C9	ECEA1CU100B	Electrolytic 10 µF 16V
R26	ERD10TJ183	Carbon 18K ohms 1/8W	C10	ECEA0JU101	Electrolytic 100 µF 6.3V
R27	ERD10TJ333	Carbon 33K ohms 1/8W	C11	ECEA1VU100B	Electrolytic 10 µF 35V
R28	ERD10TJ103	Carbon 10K ohms 1/8W	C12	o ECEA1HN3R3S	Electrolytic 3.3 µF 50V for PCB1-A
R29	ERD10TJ822	Carbon 8.2K ohms 1/8W		o ECEA1HN3R3SE	Electrolytic 3.3 µF 50V for PCB1-B
R30	ERD10TJ102	Carbon 1K ohms 1/8W	C13	o ECEA1VU100E	Electrolytic 10 µF 35V
R31	ERD10TJ822	Carbon 8.2K ohms 1/8W	C14	ECEA1CU100B	Electrolytic 10 µF 16V
R32	ERD10TJ103	Carbon 10K ohms 1/8W	C16	ECEA1VU101B	Electrolytic 100 µF 35V
R33	ERD10TJ222	Carbon 2.2K ohms 1/8W	C17,18	ECQM1H104JZ	Plastic 0.1 µF 50V
R34	ERD10TJ393	Carbon 39K ohms 1/8W	C19	ECEA1AU101	Electrolytic 100 µF 10V
R35	ERD10TJ163	Carbon 16K ohms 1/8W	C20	ECQM1H104JZ	Plastic 0.1 µF 50V
R36	ERD10TJ122	Carbon 1.2K ohms 1/8W	C21	ECQM1H104JZ	Plastic 0.1 µF 50V for PCB1-A
R38	ERD10TJ561	Carbon 560 ohms 1/8W	C22	ECEA1CU101	Electrolytic 100 µF 16V for PCB1-B
R39	ERD10TJ221	Carbon 220 ohms 1/8W	C23	o ECEA1VU101E	Electrolytic 100 µF 35V
R40	ERD10TJ751	Carbon 750 ohms 1/8W	C24	o ECEA0JU101E	Electrolytic 100 µF 6.3V
R41	ERD10TJ330	Carbon 33 ohms 1/8W for PCB1-A	C25	ECEA1HS010	Electrolytic 1 µF 50V
	ERD10TJ151	Carbon 150 ohms 1/8W for PCB1-B	C27,28	ECEA1CU100B	Electrolytic 10 µF 16V
R42	ERD10TJ472	Carbon 4.7K ohms 1/8W for PCB1-A	C29	ECEA1AU101	Electrolytic 100 µF 10V
	ERD10TJ823	Carbon 82K ohms 1/8W for PCB1-B			
R43,44	ERD10TJ471	Carbon			

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C30	ECEA0JU101	Electrolytic 100 μ F 6.3V			
C32	ECKF1H331KB	Ceramic 330 pF 50V for PCB1-A			
	ECKR1H181KB5	Electrolytic 180 pF 50V for PCB1-B			
C33	ECEA1CU101	Electrolytic 100 μ F 16V			
C34	o ECEA0JU102E	Electrolytic 1000 μ F 6.3V			
C35	* ECEA1CU471	Electrolytic 470 μ F 16V			
C36	ECEA1AU101	Electrolytic 100 μ F 10V			
C37	ECCF1H121JC	Ceramic 120 pF 50V			
C38	ECEA1CU100B	Electrolytic 10 μ F 16V			
C39	ECQB1H122JZ3	Plastic 1200 pF 50V			
C40	ECQB1H562JZ3	Plastic 5600 pF 50V			
C41	ECEA1AU101	Electrolytic 100 μ F 10V			
C45	ECEA1CU101	Electrolytic 100 μ F 16V			
C46	ECEA1CU330	Electrolytic 33 μ F 16V			
C47	ECEA1HS010	Electrolytic 1 μ F 50V			
C48	o ECEA1VU470E	Electrolytic 47 μ F 35V			
C49	ECCF1H470JC	Ceramic 47 pF 50V			
L1	YFSC2MH	Coil 2 mH			
L3	EL06SI101K	Coil 100 μ H			
L4	YFPZC3MH	Coil 3 mH			
E10	YFN024B	Insulator			
CN1,2-JM	EMCS0252M	2 pin Jack Male			
CN3-JM	EMCS0452M	4 pin Jack Male			
M24	o YFV7DA0029A4	Heat Sink A			
M25	o YFV7DA0030A4	Heat Sink B			
M28	YWV52-LM05	Shield Parts			
LED BOARD					
PCB2	o YFVKCPS10J1A	Printed Circuit Board Assy for WV-PS10N			
	o YFVKCPS10E1A	Printed Circuit Board Assy for WV-PS10/BCG, WV-PS10F, WV-PSN/A, WV-PS17N/C			
D101	o LN21RPSL	Diode			
ACCESSORY PART/PACKAGING PARTS					
M31	o YFV8QA0884AN o YFV8QA0885AN o YFV8QA0886AN o YFV8QA0887AN	Operating Instruction for WV-PS10F Operating Instruction for WV-PS10/BCG Operating Instruction for WV-PS10N Operating Instruction for WV-PS10N/A, WV-PS10N/C			
M33	19998700331	Warranty Card			
M35	XZB26X40C05	Polyethylene Bag for Camera Drive Unit			
M36	YWT10X35C03	Polyethylene Bag for Power Cord			
M37	YWT20X35C03	Polyethylene Bag for Printed			
M40	o YFV9CA0706AN	Packaging Assy			